REMARKS

The Examiner is thanked for the thorough examination of the present application. The Office Action, however, has tentatively rejected all claims 1-16. More specifically, the Office Action has rejected claims 1, 2, 5-10, 12, and 13 under 35 U.S.C. Section 102(b) as allegedly anticipated by U.S. Patent 5,951,672 to Kwok, et al. The Office Action has also rejected claims 3, 4, and 14 under 35 U.S.C. Section 103(a) as allegedly unpatentable over the combination of Kwok and Applicants' admitted prior art (specification paragraphs 0001-0003). For at least the reasons set forth herein, Applicants respectfully disagree and request that the rejections be reconsidered and withdrawn.

The Office Action rejected claims 7-16 under 35 U.S.C. Section 112, second paragraph as allegedly indefinite for failing to provide antecedent basis for the phrase "the subsystem." Applicants have amended claim 7 herein to address and overcome this alleged deficiency in independent claim 7. Accordingly, the rejections under 35 U.S.C. Section 112, of claims 7-16, should be withdrawn.

Discussion of Rejections Under 35 U.S.C. Section 102(b)

Turning now to the substantive rejections of the Office Action, the Office Action rejected independent claims 1 and 7 as allegedly anticipated by Kwok. The Office Action specifically addressed claim 7 in the rejection, and addressed claim 1 only by saying that it was "similar in scope" to claim 7. Therefor, applicants' remarks below address the rejection made to claim 7.

Independent claim 7 recites:

> 7. A computer system comprising:
> a host processor configured to execute a single-threaded application;
> ***partitioning logic for partitioning the state-sequenced information,***

> ***communication logic configured to communicate partitioned state-sequenced information across a plurality of input/output busses;***
> a plurality of interfaces located at a subsystem for receiving the information communicated across the plurality of the input/output busses;
> ***processing logic for controlling the processing of the partitioned information without re-sequencing the information, the processing logic configured to preserve state information of the information processed.***

(*Emphasis Added*). Applicants respectfully submit that independent claim 7 patently defines over the cited art, as the cited art fails to disclose at least those features emphasized above.

Before addressing the specific rejection set forth in the Office Action, Applicants note that the Kwok reference is fundamentally different than the embodiments defined in independent claims 1 and 7. In this regard, the Kwok reference is directed to a system and method, for operation in a multi-processor system, for ***synchronizing the operations of two threads*** so as to execute a graphics data computation task with only one of the two threads. (*see e.g.,* Abstract). In this regard, the background section of the Kwok patent describes problems and inefficiencies (*e.g.*, overhead) associated with the creating and destroying of threads, particularly when small tasks are executed in parallel and may require a high degree of synchronization. (See column 2, lines 21-26). The Kwok patent goes on to describe the management of variables that are accessible or utilized by the two threads, in the synchronization of the operations of the two threads (e.g., col. 4, lines 12-23).

In contrast, the embodiments defined by claims 1-7 of the present application are directed to systems and methods for communicating information from a single-threaded application over multiple I/O busses. Thus, rather than synchronizing the execution of tasks within two threads, the present application describes how a single-threaded application may be partitioned (in a state-sequenced fashion) for communication over multiple busses and processing without first having to re-sequence the communicated information. As described

in the present application, this allows for the parallel processing of operations in a single-threaded application by multiple processors in a multi-node, distributed architecture.

It should be appreciated from this aspect alone, that there is a fundamental difference between the embodiments defined by independent claims 1 and 7, and the teachings of the Kwok patent.

Turning now to the specific rejection, Applicants have emphasized (above) relevant language of claim 7, which includes "partitioning logic for partitioning state-sequenced information," "communication logic configured to communicate the partitioned state-sequenced information across a plurality of input/output busses," and "processing logic for controlling the processing of the partitioned information without re-sequencing the information." The Kwok patent fails to disclose or even suggest any of these claimed features. With regard to the "partitioning logic..." element, the Office Action cites Figs. 4 and 5 of Kwok, and the teachings at column 5, lines 51-57, column 6, lines 1-7, and column 9, line 49 as allegedly disclosing this element. Applicants respectfully disagree. Nowhere in the cited portions, or any other portion identified by the undersigned, does Kwok provide any relevant teaching as to the partitioning of state-sequenced information from a single-threaded application. Again, the undersigned respectfully submits that even the basic teachings of the Kwok patent (e.g., synchronizing the execution of two threads) are fundamentally different than the embodiments defined by claims 1 and 7 of the present application. For at least this reason, the rejection of claim 7 should be withdrawn.

As a separate and independent basis for the patentability of claim 7, Applicants submit that the Kwok patent fails to teach the "processing logic" as defined in claim 7. The Office Action has cited the teachings of column 6, lines 43-48 and column 9, lines 33-38 as allegedly teaching these features. They do not. The cited portions of Kwok actually state:

> Discussing FIG. **4** now in greater detail, the common graphics system **110** includes the graphics control processor **110*b*** that supervises the operation of the graphics subsystem **110** via a control bus **110*g***.
>
> The buffering thread also flushes the vertex related data, are encountered. The buffering thread also adds this buffer to a queue of buffers for a given context (or application level thread). Another thread or set of threads is used to grab the buffer from the queue and complete the remainder of the work, such a lighting, texturing, conversion to NDC coordinates, etc., before handing the buffer to the rasterizer.

As can be readily verified from even a cursory reading of the above-quoted portions of Kwok, there is absolutely no teaching of the claimed processing logic for controlling the processing "of the partitioned information ***without re-sequencing the information***..." For at least this additional, independent basis, the rejection of claim 7 is misplaced and should be withdrawn.

For at least the foregoing reasons, Applicants submit that independent claim 7 (and therefore dependent claims 8-16) should be allowed. As noted above, independent claim 1 was rejected on essentially the same basis as claim 7 (the Office Action indicating that the scope of the two claims were similar). Applicants note that the two claims are different, and thus are not coextensive. Notwithstanding, the discussion with respect to claim 7 above has general relevance to the rejection of claim 1, and Applicants submit that the rejection of claim 1 (and dependent claims 2-6) should be withdrawn.

In addition to the foregoing, Applicants further submit that the various dependent claims contain limitations that are not disclosed in the Kwok patent. For example, claim 6 calls for "wherein separately processing comprises performing an independent rendering on information received on each of the plurality of busses." The Office Action rejected claim 6 (see paragraph 11) stating only that claim 6 was "similar in scope" to claim 7. However, the language quoted above from claim 6 is not embodied in claim 7 at all. Therefore, the

rejection made by the Office Action is misplaced and should be withdrawn. Further, Applicants submit that the feature defined by claim 6 is wholly absent from the Kwok patent, and that claim 6 patently defines over the Kwok patent. For at least this additional reason, the rejection of claim 6 should be withdrawn.

CONCLUSION

In view of the foregoing, it is believed that all pending claims are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

No fee is believed to be due in connection with this Amendment and Response to Office Action. If, however, any fee is deemed to be payable, you are hereby authorized to charge any such fee to Hewlett-Packard Company's Deposit Account No. 08-2025.

Respectfully submitted,

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